

PATENT COOPERATION TREATY

PCT



INTERNATIONAL PRELIMINARY REPORT ON PATENTABILITY
(Chapter II of the Patent Cooperation Treaty)

(PCT Article 36 and Rule 70)

REC'D 14 JAN 2005

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Applicant's or agent's file reference 43229A	FOR FURTHER ACTION See Form PCT/PEA/416	
International application No. PCT/US2004/002890	International filing date (day/month/year) 03.02.2004	Priority date (day/month/year) 05.02.2003
International Patent Classification (IPC) or national classification and IPC C08F290/00		
Applicant DOW GLOBAL TECHNOLOGIES INC. et al.		
<p>1. This report is the international preliminary examination report, established by this International Preliminary Examining Authority under Article 35 and transmitted to the applicant according to Article 36.</p> <p>2. This REPORT consists of a total of 5 sheets, including this cover sheet.</p> <p>3. This report is also accompanied by ANNEXES, comprising:</p> <p>a. <input type="checkbox"/> sent to the applicant and to the International Bureau) a total of sheets, as follows:</p> <p><input type="checkbox"/> sheets of the description, claims and/or drawings which have been amended and are the basis of this report and/or sheets containing rectifications authorized by this Authority (see Rule 70.16 and Section 607 of the Administrative Instructions).</p> <p><input type="checkbox"/> sheets which supersede earlier sheets, but which this Authority considers contain an amendment that goes beyond the disclosure in the international application as filed, as indicated in item 4 of Box No. I and the Supplemental Box.</p> <p>b. <input type="checkbox"/> (sent to the International Bureau only) a total of (Indicate type and number of electronic carrier(s)) , containing a sequence listing and/or tables related thereto, in computer readable form only, as indicated in the Supplemental Box Relating to Sequence Listing (see Section 802 of the Administrative Instructions).</p>		
<p>4. This report contains indications relating to the following items:</p> <p><input checked="" type="checkbox"/> Box No. I Basis of the opinion</p> <p><input type="checkbox"/> Box No. II Priority</p> <p><input type="checkbox"/> Box No. III Non-establishment of opinion with regard to novelty, inventive step and industrial applicability</p> <p><input type="checkbox"/> Box No. IV Lack of unity of invention</p> <p><input checked="" type="checkbox"/> Box No. V Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement</p> <p><input type="checkbox"/> Box No. VI Certain documents cited</p> <p><input type="checkbox"/> Box No. VII Certain defects in the international application</p> <p><input checked="" type="checkbox"/> Box No. VIII Certain observations on the international application</p>		
Date of submission of the demand 04.08.2004	Date of completion of this report 13.01.2005	
Name and mailing address of the international preliminary examining authority:  European Patent Office D-80298 Munich Tel. +49 89 2399 - 0 Tx: 523656 epmu d Fax: +49 89 2399 - 4465	Authorized Officer Wirth, M Telephone No. +49 89 2399-8595 	

**INTERNATIONAL PRELIMINARY REPORT
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International application No.
PCT/US2004/002890

Box No. I Basis of the report

1. With regard to the **language**, this report is based on the international application in the language in which it was filed, unless otherwise indicated under this item.
- ☐ This report is based on translations from the original language into the following language , which is the language of a translation furnished for the purposes of:
- ☐ international search (under Rules 12.3 and 23.1(b))
 - ☐ publication of the international application (under Rule 12.4)
 - ☐ international preliminary examination (under Rules 55.2 and/or 55.3)
2. With regard to the **elements*** of the international application, this report is based on *(replacement sheets which have been furnished to the receiving Office in response to an invitation under Article 14 are referred to in this report as "originally filed" and are not annexed to this report):*

Description, Pages

1-11 as originally filed

Claims, Numbers

1-16 as originally filed

- ☐ a sequence listing and/or any related table(s) - see Supplemental Box Relating to Sequence Listing
3. ☐ The amendments have resulted in the cancellation of:
- ☐ the description, pages
 - ☐ the claims, Nos.
 - ☐ the drawings, sheets/figs
 - ☐ the sequence listing (*specify*):
 - ☐ any table(s) related to sequence listing (*specify*):
4. ☐ This report has been established as if (some of) the amendments annexed to this report and listed below had not been made, since they have been considered to go beyond the disclosure as filed, as indicated in the Supplemental Box (Rule 70.2(c)).
- ☐ the description, pages
 - ☐ the claims, Nos.
 - ☐ the drawings, sheets/figs
 - ☐ the sequence listing (*specify*):
 - ☐ any table(s) related to sequence listing (*specify*):

* If item 4 applies, some or all of these sheets may be marked "superseded."

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Box No. V Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

1. Statement

Novelty (N)	Yes: Claims	1
	No: Claims	1-16
Inventive step (IS)	Yes: Claims	1
	No: Claims	1-16
Industrial applicability (IA)	Yes: Claims	1-16
	No: Claims	

2. Citations and explanations (Rule 70.7):

see separate sheet

Box No. VIII Certain observations on the international application

The following observations on the clarity of the claims, description, and drawings or on the question whether the claims are fully supported by the description, are made:

see separate sheet

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Re Item V.

1 The following documents are referred to in this communication:

D1 : US 3 862 102 A (MILKOVICH RALPH ET AL) 21 January 1975 (1975-01-21)

D2 : US 2002/045705 A1 (AUSTILL TIMOTHY WAYNE ET AL) 18 April 2002 (2002-04-18)

D3 : US 6 255 402 B1 (FORGES NATHALIE ET AL) 3 July 2001 (2001-07-03)

D4 : US 5 721 320 A (LI IRENE Q ET AL) 24 February 1998 (1998-02-24)

2. Novelty and inventive step (Art. 33(2) and (3) PCT).

D1 discloses a rubber modified polymer in which a rubber carrying a double bond is reacted with styrene (see passages cited in the search report).

D2 discloses a rubber modified polymer in which a rubber carrying a double bond is reacted with dibromostyrene (see passages cited in the search report).

Present claims 1 and 9 are therefore not novel over D1 and D2 (Art 33(2) PCT).

D3 and D4 disclose a rubber modified polymer in which a rubber carrying a nitroxyl functional group is reacted with styrene. Present claims 1 and 9 are therefore not novel over D3 and D4 either (Art 33(2) PCT).

Reference is made to point VIII. below. The parameters contained in the claims are considered fulfilled by the cited documents, in particular in the worked examples. Should this not be the case, it does not appear that they could support inventive step: they are not even measured in the examples so they must not be very relevant for the claimed invention.

Dependent claims 2-8, 10-16 do not contain any features which, in combination with the features of any claim to which they refer, meet the requirements of the PCT in respect of novelty and/or inventive step (Article 33(2) and (3) PCT).

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Re Item VIII.

Present claims relate to a rubber modified polymer obtained by reacting a vinyl aromatic monomer with a functionalised rubber. The polymer is characterized by the degree of grafting at the point of phase inversion and by the weight percent of matrix polymer grafted to the rubber based on the total amount of matrix polymer. These parameters are however not properly disclosed in the application. What is the phase inversion? How is it detected? How is the degree of grafting measured? How does the person skilled in the art can achieve said parameters?...

These parameters are not even measured in the examples which are maybe not even falling under present claims.

It is therefore considered that the present application is not clear and that the claimed invention is not sufficiently disclosed (Art 5 and 6 PCT).